

My report, embracing those of Lieut. Mackai and the naturalists, with the maps, plans, and drawings, will probably be the first published; and should Congress extend its usual liberality to my propositions, all the volumes will be presented to the world in a creditable manner.

A paper was also read, entitled "On the Typical Forms of the large Secreting Organs of the Human Body." By Thomas H. Silvester, M.D. Communicated by Thomas Bell, Esq., Sec. R.S. Received Nov. 11, 1853.

The author in this paper offers some observations on the large secreting organs of the human body, namely,—

The lungs,
The liver,
The kidney,
The stomach,
The intestines, and
The developments connected with reproduction.

He observes that there are great obstacles to an attempt to reduce them to a uniform type, but that further observation reveals a typical uniformity, in adaptation to special purposes, unequalled in the rest of the human œconomy. The greatest hindrance to the discovery of this law of formation has been the habit of regarding a single element of the glandular organ as the whole and not a mere part of the glandular apparatus; for instance, the ovary has been described as the ovuliferous gland, although in reality the latter consists of the ovary, the Fallopian tubes, the uterus, and the vagina: also the lung has been said to be a gland, meaning by this expression the secreting portion; whereas the lung-gland is composed of the vesicular structure, the excretory ducts, the bronchi, larynx, thyroid body, and even the nasal passages. The aim of the author has been to discover the constant elements of the glandular system and to compare them together in the several organs.

A secreting gland is described as a more or less developed fold of mucous membrane, or even a plain surface—in its simplest form a follicle; but in the organs to be described it is a highly complicated apparatus, composed of many parts, each possessing a peculiar function. It is an unvarying characteristic of these structures that the elements of which they are composed always bear the same relation to each other in position. An accompanying diagram exhibited the type of a perfect gland, constituted of five elements and an appendage.

1. The secreting element. Red.
2. The excretory element. Blue.
3. The receptacle element Yellow,
4. The cervix with its glandular appendage Purple.
5. The efferent duct. Green.

Sketches of the several glands of the human body accompanied the paper, coloured in the same manner, so that the corresponding parts might be seen at a glance. The elements are seldom wanting,

though sometimes scarcely discernible in their rudimentary condition, and retained apparently only in conformity to typical law.

There is great difference in degree of development of the elements. The secreting part of the liver is of large size compared to the ducts, whilst that of the generative organ in the female, namely, the ovarium, is comparatively minute. The appendage of the cervix is very large in the biliferous apparatus, but scarcely discoverable in the stomach and sigmoid flexure. The excretory duct in the digestive organ, represented by a contraction across the middle of the stomach, is of enormous length in the seminiferous gland, as the vas deferens.

The popular terms being inexact or without meaning, it was proposed to substitute for the ordinary names of the secreting organs designations more aptly descriptive of their functions and more in accordance with the principles of scientific nomenclature, as follows:—

- The uriniferous gland.
- The seminiferous gland.
- The biliferous gland.
- The pneumatiferous gland.
- The intestinal gland.
- The ovuliferous gland.
- The lactiferous gland; and
- The digestive gland.

The kidney, or uriniferous gland, presents an almost typical regularity of development. The secreting element or cortical portion is composed of small convoluted tubes covered with a net-work of blood-vessels.

The excretory duct or medullary structure arises from the cortical part by numerous straight tubuli, which terminate in a duct for the conveyance of the urine into

The receptacle or bladder. This organ has a cervix lined with mucous membrane in longitudinal folds, studded with minute follicles and a rudimentary glandular appendage in the male.

The efferent duct is constituted of the membranous portion of the urethra.

The seminiferous gland consists of the testicle, a collection of convoluted tubercles, of an excretory duct called the vas deferens, of a receptacle the analogue of the uterus, the vesiculæ seminales being the body, the prostate the glandular appendage surrounding the cervix. The efferent duct is of considerable length; the receptacle is lined with an alveolar fissure like the gall-bladder and some muscular fibres.

The ovuliferous organ consists of the ovarium or secretory element, the fallopian tubes or excretory duct, the uterus or receptacle, the cervix and its glandular appendage in the shape of mucous follicles, and the vagina or efferent duct. The secretory structure is not tubular, but vesicular; the excretory duct is connected with the ovarium by its fimbriated extremity at certain periods only, in conformity with its peculiar function.

The lactiferous gland is remarkable for the singular distribution

of its elements ; the secreting portion or breast, and the excretory duct or nipple, being attached to one individual, and the receptacle or mouth, cervix, glandular appendage or tonsils, and efferent duct or œsophagus belonging to another, of which the mother and child afford an illustration.

The stomach or digestive gland does not appear at first sight to be formed upon the same type as the other glands ; it is however divisible into three distinct cavities—the secreting or cardiac, the receptacular or pyloric, and the efferent or duodenum. It is a tube of enormous calibre, divided into three compartments of unequal area. The excretory tube is recognized in the central contraction of the muscles during digestion ; the cervix, lined with plicated mucous membrane, has been poetically described as the pylorus.

Comparative anatomy as well as microscopical bear testimony to the correctness of this view with regard to structure and development.

The biliferous gland is constituted as follows :

The secreting element, popularly called the liver.

The hepatic duct is the excretory tube.

The gall-bladder is the receptacle terminating in the duodenum in conjunction with the pancreatic duct, the pancreas being the glandular appendage surrounding the slender cervix of the receptacle, and the duodenum performing the function of an efferent canal to the digestive and biliferous glands.

The glandular appendages are subject to great variety of development. The thyroid, the pancreas, and the prostate are large structures, whilst in the pylorus, the sigmoid flexure of the colon and the cervix uteri, the same element is little more than a fold of mucous membrane with follicles interspersed. This element, like the glandular apparatus, is greatly predisposed to cancerous degeneration.

The writer of the paper now proceeds to describe the most remarkable and important gland of the human œconomy, namely, the sanguiferous.

The jejunum and ileum constitute the secreting element of this organ. The ileo-cæcal valve or verminiferous appendage is the excretory duct in a rudimentary state. The colon, though enormously developed in a longitudinal direction, must be regarded as the receptacle ; the sigmoid flexure folded upon itself like the letter S (as in the cervix of the gall-bladder) is the cervix of the colon receptacle ; the rectum or the efferent duct completes the system.

The function of this system is not fully known ; the tract is lined with mucous membrane and glandulæ for the secretion of air and other products of the blood. It can scarcely be denied that the intestinal tube, in its structure and form and arrangement of the elements, bears the closest analogy to the glandular apparatus as seen in the other large viscera of the human body.

The jejunum, as its name implies, is generally empty ; it is convoluted, and its parietes are covered with a net-work of capillaries ; it resembles therefore in all these particulars the tubes which form

the secreting tissue of the testicle and kidney, and differs from them but in size. The jejunum and ileum, regarded as a continuous tube, constitute a magnificent secreting structure, and its function is probably something more than the supply of the air and mucus generally contained in its canal. It has been suggested, that the blood, the lymph and the fæces owe their existence to the active capillaries of the mesenteric arteries, but some certain proofs are still wanting in confirmation of this opinion.

In the lung-gland, or pneumatiferous organ, the vesicular structure is the secreting element; it secretes carbonic acid: the ramifications of the bronchia ending in the two bronchi represent the excretory duct; the trachea is the receptacle; and the glandular appendage covering the cervix (or cricoid cartilage) and marking its position, passes by the name of the thyroid.

The efferent duct commences at the cricoid and ends at the cartilaginous orifice of the nostrils.

The lacrymiferous organ is formed upon the same plan as the preceding; but in consequence of some peculiarities of development, that, together with the simpler secreting structures, will be reserved for a future opportunity.

November 30, 1853.

At the Anniversary Meeting,

The EARL OF ROSSE, K.P., M.A., President, in the Chair.

Mr. Grove, on the part of the Auditors of the Treasurer's Accounts, announced that the total receipts, during the past year, including a balance of £182 0s. 1d. carried from the account of the preceding year, amounted to £4791 12s. 1d.; and that the total expenditure, including an investment of £1367 10s. 0d. in the Funds, was £3784 14s. 6d., leaving a balance in the hands of the Treasurer of £1006 17s. 7d.

The thanks of the Society were voted to the Treasurer and Auditors.

List of Fellows deceased since the last Anniversary.

On the Home List.

The Earl of Brownlow.	Edward William Pendarves, Esq.
Admiral Sir George Cockburn.	Jonathan Pereira, M.D.
Col. Colquhoun.	The Dean of Peterborough.
Bransby Blake Cooper, Esq.	Henry Barne Sawbridge, Esq.
Sir George Gibbes.	George Poulett Scrope, Esq.
Thomas Gordon, Esq.	Sir William Smith.
Robert James Graves, M.D.	John Robert Stewart, Esq.
Rev. Henry Hasted.	Lieut. Stratford, R.N.
John Hawkins, Esq.	Hugh Edwin Strickland, Esq.
Col. Jackson.	Rt. Hon. Sir Edward Thornton.
Captain Johnson, R.N.	Rev. Charles Turnor.
The Lord Bishop of Lincoln.	Frederick Webb, Esq.
Captain Napier, R.N.	